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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,995	05/27/2005	Ian Methley	MESS 3240	1898
7812	7590	04/10/2006	EXAMINER	
SMITH-HILL AND BEDELL, P.C. 16100 NW CORNELL ROAD, SUITE 220 BEAVERTON, OR 97006			ESHETE, ZELALEM	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/534,995	METHLEY, IAN	
	Examiner	Art Unit	
	Zelalem Eshete	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 10-13, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 14-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/16/05; 12/23/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This Office Action is in response to the preliminary amendment filed on 5/16/2005; wherein claims 1-9 have been cancelled.

Claim Objections

1. Claims 17,18 are objected to because of the following informalities: Both claims depend from a cancelled claim 9, which appears to be a typo. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 10-13,17 are rejected under 35 U.S.C. 102(b) as being anticipated by Lancefield et al. (EP1111206).

Regarding claim 10: Lancefield discloses an internal combustion engine having a crankshaft and a valve mechanism, wherein the valve mechanism (see figures 1,2) comprises: a gas exchange poppet valve (see numeral 12), a camshaft rotatable in synchronism with the engine crankshaft and having a cam for operating the valve (see numeral 22), a valve actuator acting on the poppet valve to open and close the valve

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(see numeral 28), a pivot shaft that is moveable relative to the camshaft along a predetermined path in response to rotation of the pivot shaft about its own axis, and an intermediate rocker mounted on the pivot shaft and having a follower acted upon by the cam and a contoured surface that acts on the valve actuator to open and close the valve in synchronism with the rotation of the cam (see numeral 26; abstract), wherein movement of pivot shaft along the predetermined path causes movement of intermediate rocker, and movement of the intermediate rocker in turn causes the valve lift to vary (see abstract), and said predetermined path is such that, while the cam follower is on the base circle of the cam, the valve actuator remains stationary and a substantially constant clearance is maintained between the contoured surface of the intermediate rocker and the valve actuator during displacement of the pivot shaft along the path (see paragraph 0014; figures 5 to 8).

Regarding claim 11: Lancefield discloses the pivot shaft is located on the intermediate rocker (see figures 5,6).

Regarding claim 12: Lancefield discloses the valve actuator is constructed as a valve actuating rocker pivoted at one end, acting on the valve at its other and having between its ends a part cylindrical contact surface or a roller follower acted upon by the contoured surface of the intermediate rocker (see numeral 28).

Regarding claim 13, Lancefield discloses the pivot at the said one end of the valve actuating rocker comprises a hydraulic lash adjuster (see numeral 36, paragraph 0008).

Regarding claim 17: Lancefield discloses a phase change mechanism is provided between the engine crankshaft and the camshaft (see figure 12, paragraph 0003).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lancefield.

Lancefield discloses having two valve mechanisms controlling the flow of gas into or out of each engine cylinder (see figures 1-8), wherein the cam profiles and/or the contoured surfaces of the intermediate rocker actuating the two valves of each cylinder have a different geometry from one another, such that the valve lift characteristics of the two valves differ from one another as the valve lift is reduced (see figures 1-8).

Lancefield discloses the claimed invention except for duplicating the valve actuation system of a single valve into for a plurality of valves. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

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apply the system design that was made for one valve to a plurality of valves depending on the engine, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Allowable Subject Matter

6. Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Methley and Hara disclose the structural arrangements of the valve actuation mechanism.

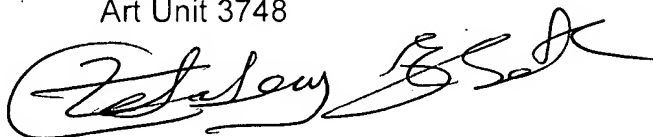
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zelalem Eshete whose telephone number is (571) 272-4860. The examiner can normally be reached on Monday to Thursday.

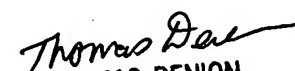
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zelalem Eshete
Examiner
Art Unit 3748




THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700